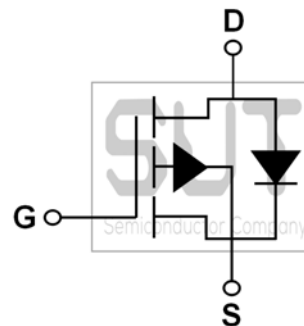
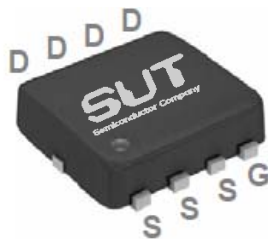


P-Channel 30-V_(D-S) SGT MOSFET

PRODUCT SUMMARY		
B _{VDSS} (V)	R _{DS(on)} (mΩ)(MAX)	I _D (A)
-30	18@V _{GS} =-10V	-30

PPAK3X3 Pin Configuration



ABSOLUTE MAXIMUM RATINGS(T_C=25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current-Continuous (T _C =25°C)	I _D	-30	A
Drain Current-Continuous (T _C =100°C)		-19	A
Drain Current-Pulsed ¹	I _{DM}	-120	A
Power Dissipation (T _C =25°C)	P _D	27	W
Power Dissipation-De-rate above 25°C		0.22	W/°C
Storage Temperature Range	T _{STG}	-55 to 150	°C
Operating Junction Temperature Range	T _J	-55 to 150	°C

THERMAL CHARACTERISTICS

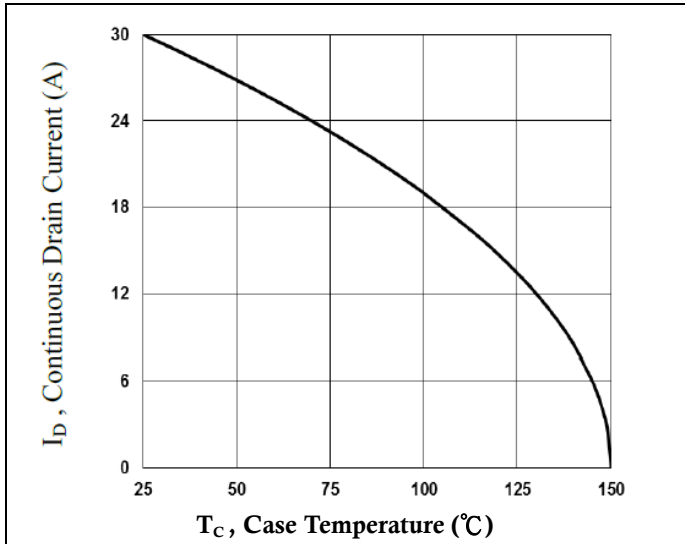
Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction to ambient	R _{θJA}	---	62	°C/W
Thermal Resistance Junction to Case	R _{θJC}	---	4.6	°C/W

ELECTRICAL CHARACTERISTICS (T _J =25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250uA	-30	---	---	V
BV _{DSS} Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =-1mA	---	-0.03	---	V/°C
Drain-Source Leakage Current	I _{DSS}	V _{GS} =0V, V _{DS} =-27V, T _J =25°C	---	---	-1	uA
		V _{GS} =0V, V _{DS} =-24V, T _J =125°C	---	---	-10	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
On Characteristics						
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-8A	---	14.5	18	mΩ
		V _{GS} =-4.5V, I _D =-6A	---	23	30	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =-250uA	-1.2	-1.6	-2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		---	4.0	---	mV/°C
Forward Transconductance	g _{fs}	V _{DS} =-10V, I _D =-8A	---	6.8	---	S
Dynamic and Switching Characteristics						
Total Gate Charge ^{2, 3}	Q _g	V _{GS} =-4.5V, V _{DS} =-15V, I _D =-5A	---	11	17	nC
Gate-Source Charge ^{2, 3}	Q _{gs}		---	3.4	6.0	
Gate-Drain Charge ^{2, 3}	Q _{gd}		---	4.2	8.0	
Turn-On Delay Time ^{2, 3}	T _{d(on)}	V _{GS} =-10V, V _{DD} =-15V, R _G =6Ω, I _D =-1A	---	5.8	11	ns
Rise Time ^{2, 3}	T _r		---	18.8	36	
Turn-Off Delay Time ^{2, 3}	T _{d(off)}		---	46.9	90	
Fall Time ^{2, 3}	T _f		---	12.3	23	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, F=1MHz	---	1250	2500	pF
Output Capacitance	C _{oss}		---	160	320	
Reverse Transfer Capacitance	C _{rss}		---	90	180	
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Source Current	I _S	V _G =V _D =0V, Force Current	---	---	-30	A
Pulsed Source Current	I _{SM}		---	---	-60	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-1A, T _J =25°C	---	---	-1.0	V

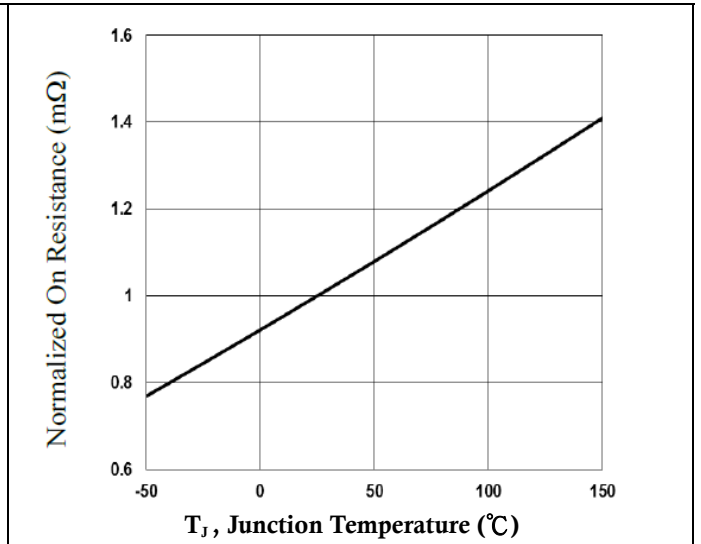
Note :

1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%.
3. Essentially independent of operating temperature.

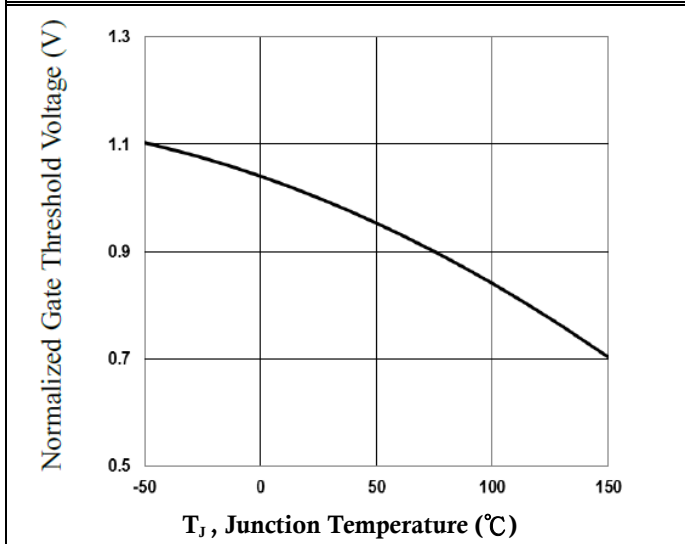
30V P-Channel MOSFETs



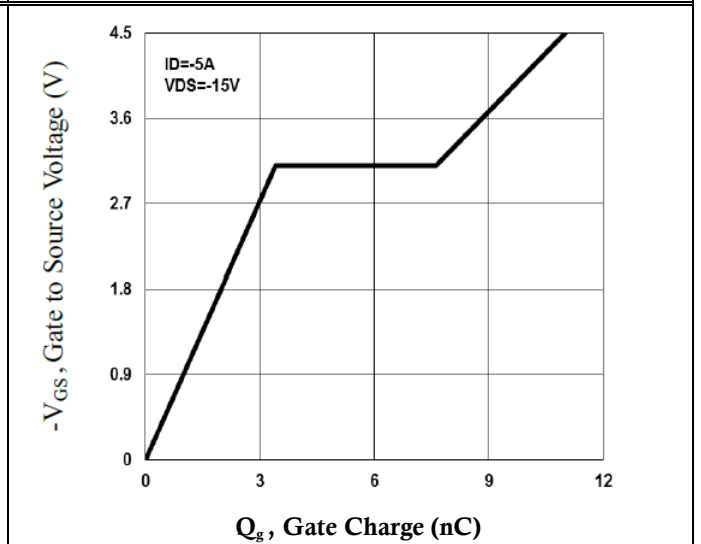
Continuous Drain Current vs. T_C



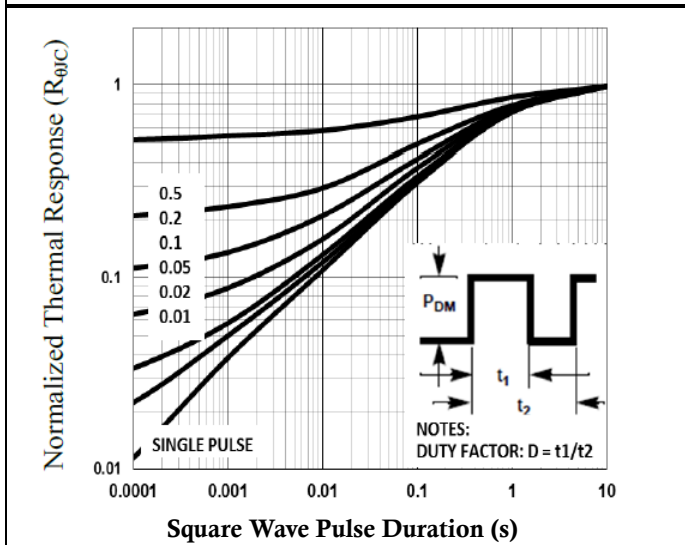
Normalized $R_{DS(ON)}$ vs. T_J



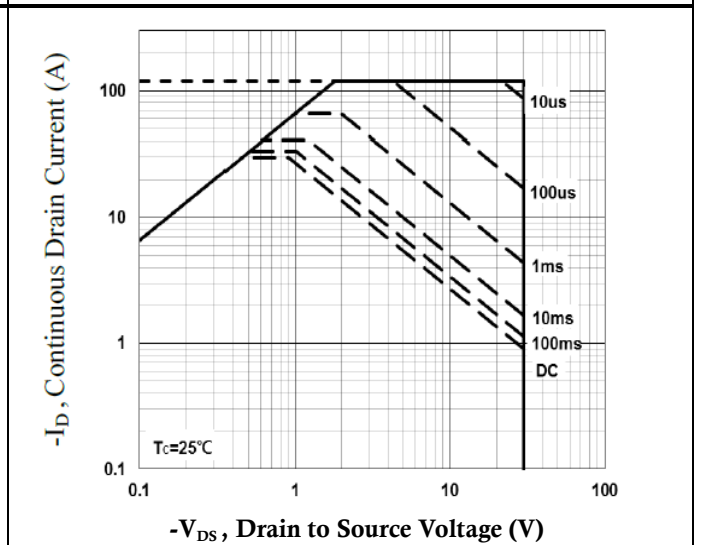
Normalized V_{th} vs. T_J



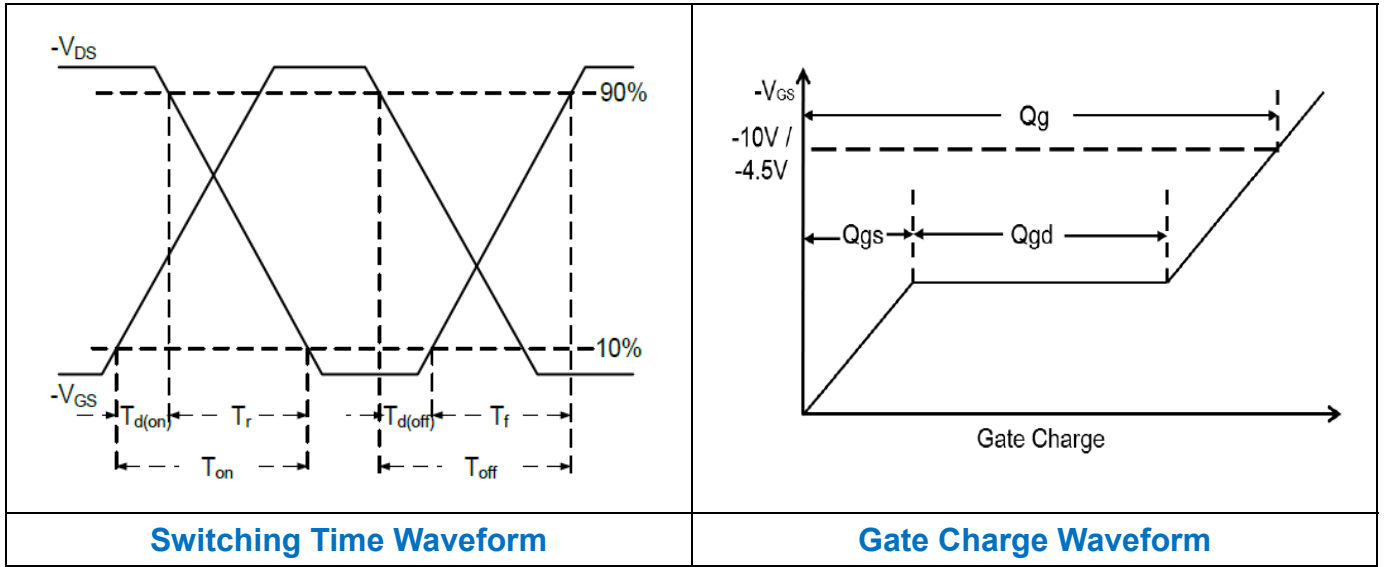
Gate Charge Waveform



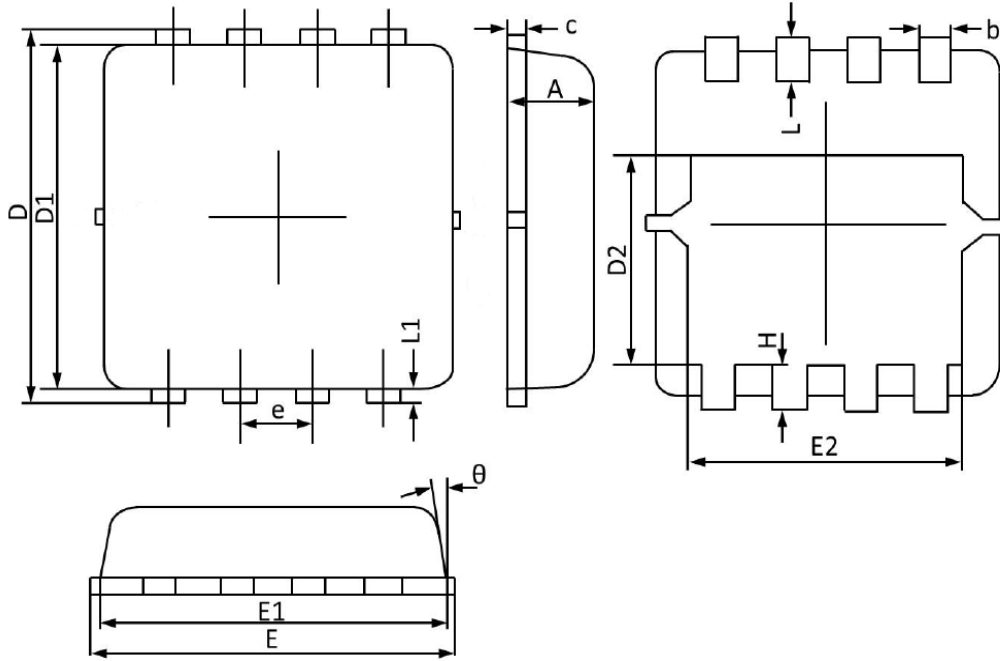
Normalized Transient Impedance



Maximum Safe Operation Area



PPAK3X3 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	0.900	0.700	0.035	0.028
b	0.350	0.240	0.014	0.009
c	0.250	0.100	0.010	0.004
D	3.450	3.050	0.136	0.120
D1	3.200	2.900	0.126	0.114
D2	1.850	1.350	0.073	0.053
E	3.400	3.000	0.134	0.118
E1	3.250	2.900	0.128	0.114
E2	2.600	2.350	0.102	0.093
e	0.650(BSC)		0.026(BSC)	
H	0.500	0.300	0.020	0.012
L	0.500	0.300	0.020	0.012
L1	0.200	0.070	0.008	0.003
θ	12°	0°	12°	0°